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ARMY ELECTRONICS RESEARCH AND DEVELOPMENT COMMAND WS--ETC F/6 4/2  
193098 MLRS, MISSILE NUMBERS 1122, 1121, 1120, ROUND NUMBERS V--ETC(U)

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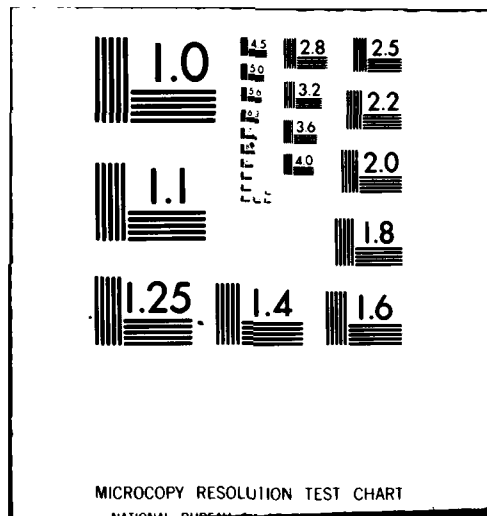
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FEBRUARY 1980

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METEOROLOGICAL DATA REPORT

193098 MLRS  
Missile Numbers 1122, 1121, 1120  
Round Numbers V-113, V-114, V-115  
12 February 1980

by

White Sands Meteorological Team

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ATMOSPHERIC SCIENCES LABORATORY  
WHITE SANDS MISSILE RANGE, NEW MEXICO

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UNITED STATES ARMY ELECTRONICS COMMAND

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20. ABSTRACT (Continue on reverse side if necessary and identify by block number)		
Meteorological data gathered for the launching of 19309B MLRS, Missile Numbers 1122, 1121, 1120, Round Numbers V-113, V-114 and V-115 are presented in tabular form.		

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## INTRODUCTION

19309B MLRS, Missile Numbers 1122, 1121, 1120, Round Numbers V-113, V-114, V-115, were launched from LC-39, White Sands Missile Range (WSMR), New Mexico, at 1314:03, 1619:01, 1737:18 MST, 12 February 1980.

## DISCUSSION

Meteorological data were recorded and reduced by the White Sands Meteorological Team, Atmospheric Sciences Laboratory (ASL), White Sands Missile Range, New Mexico. The data were obtained by the following methods:

### 1. Observations

#### a. Surface

(1) Standard surface observations to include pressure, temperature ( $^{\circ}\text{F}$ ), relative humidity, dew point ( $^{\circ}\text{F}$ ), wind direction and speed, and cloud cover were made at the "C" Station Met Site.

(2) Monitor of wind speed and direction from one anemometer was provided in the launch control room.

#### b. Upper Air

(1) Low level wind data were obtained from RAPTS T-9 pibal observation at:

#### SITE AND ALTITUDE

LC-39	2 Km
SMR	2 Km

(2) Air structure data (rawinsonde) were collected at the following Met Sites.

#### SITE AND TIME

LC-37	1321 MST
WSD	1600 MST
LC-37	1715 MST



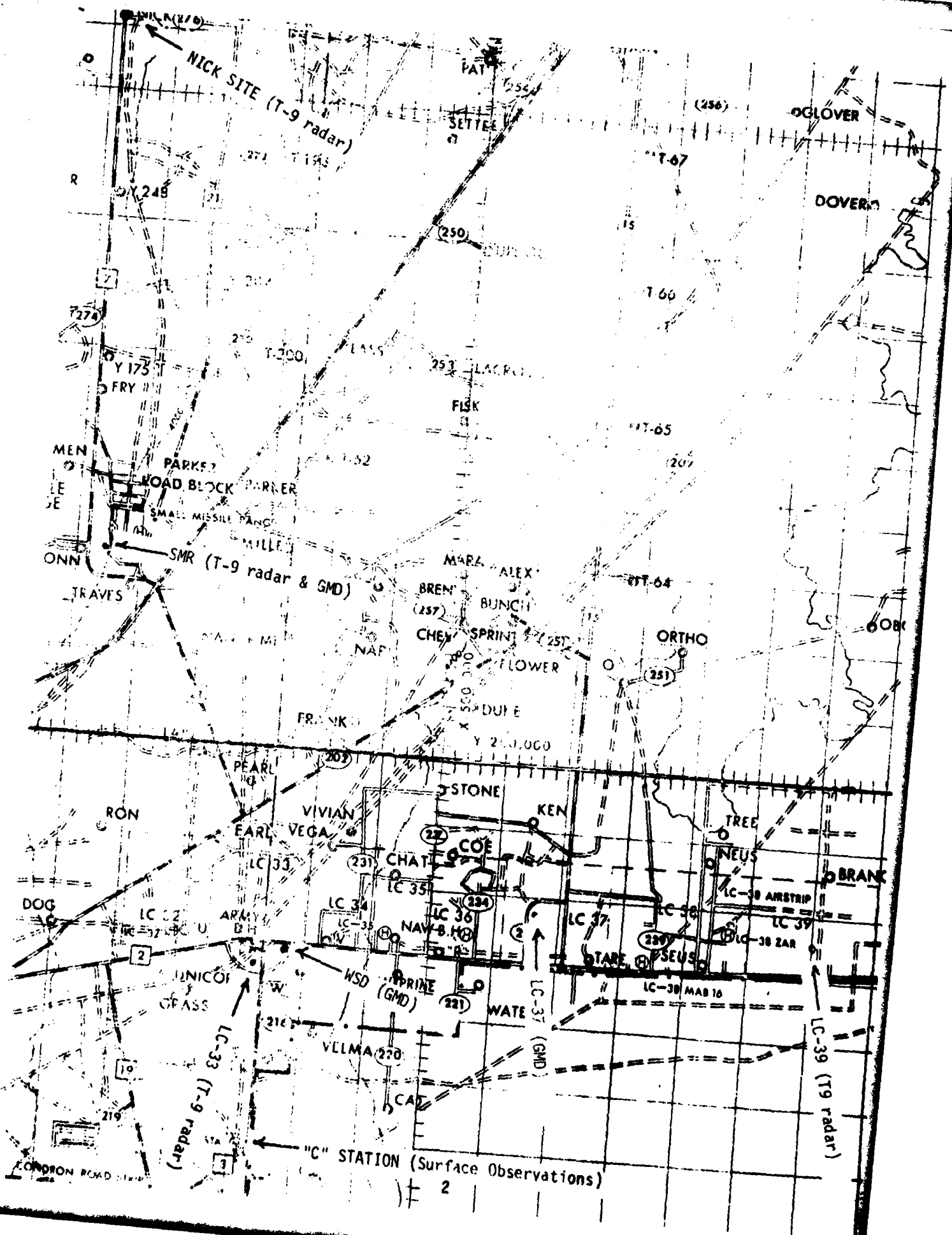


TABLE 1  
SURFACE OBSERVATIONS OBTAINED FROM "C" STATION ON 12 February 1980

TIME MST	SKY CONDITIONS	PVIG VSBY	WEATHER OBSERVED TO VISIBILITY	TEMP AIR	TEMP SURFACE	TEMP WIND	WIND SPEED
0058	CLR	20		25.975	28	23	160 02
0158	CLR	20		25.980	26	24	120 06
0258	CLR	20		25.970	26	20	300 06
0358	CLR	20		25.975	24	15	120 05
0458	CLR	20		25.975	26	18	220 03
0558	CLR	20		25.975	27	21	280 02
0658	250-SCT	30		25.990	25	18	130 02
0758	250-SCT	40		26.015	27	21	360 04
0858	250-BKN	40		26.030	34	27	360 02
0958	250-BKN	40		26.030	42	30	030 02
1058	E250-BKN	40		26.020	47	32	E270 03
1158	E250-BKN	40		25.990	53	35	180 11
1258	60SCTE250-BKN	40		25.945	58	30	200 11
1358	60SCTE250-BKN	40		25.925	54	29	220 11
1458	60SCTE250-BKN	40		25.910	58	31	210 08
1558	60SCTE250-BKN	40		25.900	58	31	310 08
1658	60SCTE250-BKN	40		25.895	56	29	230 10
1758	60SCTE250-BKN	40		25.900	51	30	220 08
1858	250SCT	10		25.915	46	29	230 05
1958	CLR	10		25.930	42	30	170 04
2058	CLR	10		25.945	40	30	150 04
2158	CLR	10		25.955	38	29	090 02
2258	CLR	10		25.950	38	31	E100 06
2358	CLR	20		25.940	35	31	200 07

## PILOT BALLOON MEASURED WIND DATA

TABLE 2

RELEASED FROM LC-39

DATE 12 February 1980

TIME 1300 MST

## TRACKER

COORDINATES (WSTM)

$$X = 530,938.82$$

Y- 186,564.96

|| = 4063.75

NOTE: WIND DIRECTIONS ARE REFERENCED TO TRUE NORTH

HEIGHTS ARE METERS AGL X OR FEET AGL     .

[illegible][illegible][illegible]

## PILOT BALLOON MEASURED WIND DATA

**TABLE 3**

RELEASED FROM SMR

DATE 12 February 1980

TIME 1327 MST

## TRACKER

COORDINATES (WSTM)

$$X = 472,441.28$$

214,137.54

**3999.00**

NOTE: WIND DIRECTIONS ARE REFERENCED TO TRUE NORTH

HEIGHTS ARE METERS AGL X OR FEET AGL       .

[illegible][illegible][illegible]

## PILOT BALLOON MEASURED WIND DATA

TABLE 4

RELEASED FROM SMR

DATE 12 February 1980

TIME 1544 MST

## TRACKER

COORDINATES (WSTM)

$$x = \underline{472,441.28}$$

Y- 214,137.54

H= 3999.00

NOTE: WIND DIRECTIONS ARE REFERENCED TO TRUE NORTH

HEIGHTS ARE METERS AGL X OR FEET AGL\_\_\_\_\_.

[illegible][illegible][illegible]

## PILOT BALLOON MEASURED WIND DATA

TABLE 5

RELEASED FROM LC-39 DATE 12 February 1980 TIME 1600 MST

TRACKER      COORDINATES (WSTM)      X= 530,938.82      Y= 186,564.96      H= 4063.75

NOTE: WIND DIRECTIONS ARE REFERENCED TO TRUE NORTH

HEIGHTS ARE METERS AGL X OR FEET AGL.

[illegible][illegible][illegible]

## PILOT BALLOON MEASURED WIND DATA

TABLE 6

RELEASED FROM LC-39 DATE 12 February 1980 TIME 1735 MST

TRACKER      COORDINATES (WSTM)    X= 530,938.82    Y= 186,564.96    H= 4063.75

NOTE: WIND DIRECTIONS ARE REFERENCED TO TRUE NORTH

HEIGHTS ARE METERS AGL x OR FEET AGL     .

[illegible][illegible][illegible]

STATION ALTITUDE 4047.27 FEET MSL  
12 FEB. 60 1321 HRS MST  
ASCENSION NO. 2

SIGNIFICANT LEVEL DATA  
0430180002  
LC-37

GEODETIC COORDINATES  
32.41141 LAT DEG  
106.30852 LON DEG

TABLE 7

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE AIR DEWPOINT DEGREES CENTIGRADE		REL. HUM. PERCENT
		AIR	DEWPOINT	
876.8	4047.3	13.4	-1.7	35.0
869.8	4267.7	11.0	-4.2	34.0
850.0	4895.4	8.4	-5.1	38.0
780.4	7185.5	1.6	-7.2	52.0
704.4	9859.8	-6.3	-9.7	77.0
700.0	10020.9	-6.3	-13.6	56.0
689.7	10402.0	-6.3	-19.9	33.0
686.0	10540.8	-4.0	-26.0	16.0
680.5	10749.6	-3.4	-25.5	16.0
605.2	13760.5	-8.6	-20.9	21.0
500.0	18526.8	-20.1	-30.2	22.0
400.0	23035.4	-32.4	-46.4	23.0
376.8	25211.4	-36.0	-49.2	24.0
300.0	30289.6	-48.1		
269.4	32592.4	-54.3		
250.0	34167.1	-55.1		
241.6	34883.9	-56.4		
231.0	35824.7	-55.2		
215.4	37309.5	-50.9		
200.0	38901.5	-50.6		
173.2	42000.9	-49.3		
150.0	45080.6	-53.4		
136.4	47079.2	-57.4		
125.2	48851.9	-60.5		
107.8	51901.5	-63.9		
100.0	53419.5	-64.1		



STATION ALTITUDE 4047.27 FEET MSL  
12 FEB. 80 1321 HRS MST  
ASCENSION NO. 2

UPPER AIR DATA  
0430160002  
LC-37

GEODETIC COORDINATES  
32.41141 LAT DEG  
106.30852 LONG DEG

TABLE 8

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREE CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES (TN)	SPEED KNOTS	INDEX OF REFRACTION
4047.3	876.8	13.4	35.0	1063.5	660.2	210.0	4.1	1.000262
4500.0	862.4	10.0	35.5	1058.9	656.2	212.4	4.4	1.000257
5000.0	846.7	8.1	38.6	1046.8	653.9	214.7	4.7	1.000253
5500.0	831.0	6.6	41.7	1032.9	652.2	216.7	5.0	1.000250
6000.0	815.7	5.1	44.8	1019.3	650.5	222.4	5.0	1.000246
6500.0	800.6	3.6	47.8	1005.9	648.7	229.5	5.1	1.000243
7000.0	785.8	2.2	50.9	992.6	647.0	236.4	5.9	1.000239
7500.0	771.1	.7	54.9	979.3	645.2	238.6	6.6	1.000236
8000.0	756.4	-0.8	59.6	965.9	643.5	239.6	7.5	1.000233
8500.0	742.1	-2.3	64.3	952.8	641.7	240.1	8.5	1.000229
9000.0	728.0	-3.8	69.0	939.9	639.9	242.5	9.5	1.000226
9500.0	714.2	-5.2	73.6	927.1	638.2	245.2	10.3	1.000223
10000.0	700.6	-6.3	78.0	913.5	636.8	249.1	10.8	1.000215
10500.0	687.1	-4.7	81.1	891.1	638.5	252.3	10.5	1.000203
11000.0	673.9	-3.8	16.4	871.3	639.5	255.0	9.4	1.000198
11500.0	660.9	-4.7	17.2	857.3	638.4	254.8	8.3	1.000195
12000.0	648.2	-5.6	18.1	843.5	637.4	250.7	7.4	1.000192
12500.0	635.7	-6.4	18.9	830.0	636.4	244.6	6.9	1.000189
13000.0	623.5	-7.3	19.7	816.6	635.4	237.1	6.9	1.000186
13500.0	611.5	-8.1	20.6	803.5	634.3	233.2	6.7	1.000183
14000.0	599.6	-9.2	21.0	790.9	633.1	232.2	6.3	1.000180
14500.0	587.7	-10.4	21.2	778.8	631.6	244.6	6.2	1.000177
15000.0	576.0	-11.6	21.3	766.8	630.2	261.1	6.8	1.000174
15500.0	564.5	-12.8	21.4	755.1	628.7	272.1	9.0	1.000171
16000.0	553.3	-14.0	21.5	743.6	627.2	278.1	11.7	1.000168
16500.0	542.3	-15.2	21.6	732.3	625.8	275.9	14.0	1.000165
17000.0	531.6	-16.4	21.7	721.1	624.3	273.5	16.3	1.000163
17500.0	521.0	-17.6	21.8	710.1	622.8	270.4	17.3	1.000160
18000.0	510.7	-18.8	21.9	699.4	621.3	267.4	18.2	1.000158
18500.0	500.5	-20.0	22.0	688.8	619.9	265.5	19.4	1.000155
19000.0	490.2	-21.2	22.1	677.6	618.4	263.9	20.6	1.000152
19500.0	480.0	-22.4	22.2	666.6	617.0	262.2	22.6	1.000150
20000.0	470.0	-23.5	22.3	655.7	615.6	260.7	24.6	1.000147
20500.0	460.2	-24.7	22.4	645.1	614.1	261.5	25.3	1.000145
21000.0	450.6	-25.8	22.5	634.7	612.7	262.4	25.8	1.000142
21500.0	441.3	-27.0	22.6	624.4	611.3	264.2	25.6	1.000140
22000.0	432.1	-28.1	22.7	614.3	609.8	266.1	25.2	1.000138
22500.0	423.1	-29.3	22.7	604.4	608.4	267.0	25.7	1.000135
23000.0	414.3	-30.5	22.8	594.6	606.9	267.1	26.5	1.000133
23500.0	405.7	-31.6	22.9	585.1	605.5	268.6	27.3	1.000131

UPPER AIR DATA  
0430180002  
LC-37

STATION ALTITUDE 4047.27 FEET MSL  
12 FEB. 80 1321 HRS MST  
ASCENSION NO. 2

GEODETIC COORDINATES  
32.41141 LAT DEG  
106.30852 LON DEG

TABLE 8 (CONT)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES (TN)	SPEED KNOTS	INDEX OF REFRACTION
24000.0	397.2	-32.8	23.1	575.7	604.0	260.1	28.0	1.000129
24500.0	388.6	-34.1	23.5	566.4	602.3	265.1	28.4	1.000127
25000.0	380.3	-35.4	23.8	557.3	600.7	263.8	28.4	1.000125
25500.0	372.0	-36.7	22.6**	547.9	599.1	262.8	28.4	1.000122
26000.0	363.7	-37.9	20.3**	538.5	597.6	262.4	28.4	1.000120
26500.0	355.0	-39.1	17.9**	529.2	596.1	261.6	28.7	1.000118
27000.0	347.7	-40.3	15.5**	520.1	594.5	260.5	29.2	1.000116
27500.0	340.0	-41.5	13.2**	511.2	593.0	259.8	29.5	1.000114
28000.0	332.5	-42.6	10.8**	502.5	591.5	259.5	29.6	1.000112
28500.0	325.1	-43.8	8.5**	493.9	589.9	259.5	29.7	1.000110
29000.0	317.9	-45.0	6.1**	485.4	588.4	260.0	29.8	1.000108
29500.0	310.8	-46.2	3.7**	477.1	586.9	260.4	30.3	1.000106
30000.0	303.9	-47.4	1.4**	469.0	585.3	260.3	31.8	1.000104
30500.0	297.1	-48.7		461.0	583.7	260.1	33.6	1.000103
31000.0	290.2	-50.0		453.1	581.9	259.6	37.6	1.000101
31500.0	283.5	-51.4		445.3	580.2	259.2	41.6	1.000099
32000.0	277.0	-52.7		437.7	578.4	258.5	41.8	1.000097
32500.0	270.6	-54.1		430.2	576.7	257.5	40.7	1.000096
33000.0	264.2	-54.5		421.0	576.1	256.6	39.5	1.000094
33500.0	258.0	-54.8		411.6	575.7	255.6	38.3	1.000092
34000.0	252.0	-55.0		402.4	575.4	246.7	33.9	1.000090
34500.0	246.1	-55.7		394.2	574.5	241.1	35.9	1.000088
35000.0	240.3	-56.3		385.9	573.8	240.4	41.5	1.000086
35500.0	234.6	-56.6		375.7	574.6	244.4	45.1	1.000084
36000.0	229.1	-54.7		365.3	575.8	240.9	48.2	1.000081
36500.0	223.8	-53.2		354.5	577.7	248.9	51.2	1.000079
37000.0	218.0	-51.8		344.0	579.6	249.2	53.5	1.000077
37500.0	213.5	-50.9		334.6	580.8	249.3	55.5	1.000075
38000.0	208.6	-50.8		326.7	581.0	248.7	57.7	1.000073
38500.0	203.8	-50.7		319.1	581.1	247.6	60.0	1.000071
39000.0	199.1	-50.6		311.6	581.2	246.5	61.4	1.000069
39500.0	194.5	-50.3		304.1	581.5	244.9	62.2	1.000068
40000.0	190.1	-50.1		296.9	581.8	243.3	63.5	1.000066
40500.0	185.7	-49.9		289.8	582.1	241.6	65.1	1.000065
41000.0	181.4	-49.7		282.9	582.3	241.0	67.7	1.000063
41500.0	177.3	-49.5		276.1	582.6	240.7	70.5	1.000061
42000.0	173.2	-49.3		269.6	582.9	241.3	71.9	1.000060
42500.0	169.2	-50.0		264.1	582.0	242.1	72.9	1.000059
43000.0	165.3	-50.6		258.0	581.1	243.0	72.6	1.000058
43500.0	161.5	-51.3		253.6	580.3	245.0	71.6	1.000056

\*\* AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

UPPER AIR DATA  
0430180002  
LC-37

STATION ALTITUDE 4047.27 FEET MSL  
12 FEB. 80  
ASCENSION NO. 2

GEODETIC COORDINATES  
32.41141 LAT DEG  
106.30852 LON DEG

TABLE 8 (CONT)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES DEWPOINT CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES (TN)	SPEED KNOTS	INDEX OF REFRACTION
44000.0	157.0	-52.0		248.5	579.4	247.3	70.0	1.000055
44500.0	154.1	-52.6		243.5	578.5	248.5	67.8	1.000054
45000.0	150.6	-53.3		238.6	577.7	249.5	66.3	1.000053
45500.0	147.0	-54.2		234.0	576.4	249.8	65.6	1.000052
46000.0	143.6	-55.2		229.5	575.1	250.3	65.0	1.000051
46500.0	140.2	-56.2		225.2	573.8	250.7	64.5	1.000050
47000.0	136.9	-57.2		220.9	572.4	251.4	62.9	1.000049
47500.0	133.7	-58.1		216.5	571.3	252.6	59.3	1.000048
48000.0	130.5	-59.0		212.2	570.1	253.7	56.0	1.000047
48500.0	127.3	-59.9		208.0	568.9	254.0	53.4	1.000046
49000.0	124.3	-60.7		203.8	567.9	255.2	51.2	1.000045
49500.0	121.3	-61.2		199.4	567.1	255.9	51.4	1.000044
50000.0	118.3	-61.8		195.0	566.4	252.7	51.8	1.000043
50500.0	115.5	-62.3		190.8	565.6	252.0	53.8	1.000042
51000.0	112.7	-62.9		186.7	564.9	251.3	55.9	1.000042
51500.0	109.9	-63.5		182.6	564.1	251.3	57.2	1.000041
52000.0	107.3	-63.9		178.6	563.5	251.3	58.5	1.000040
52500.0	104.7	-64.0		174.3	563.4			1.000039
53000.0	102.1	-64.0		170.1	563.4			1.000038

STATION ALTITUDE 4047.27 FEET MSL  
12 FEB. 80 1321 HRS MST  
ASCENSION NO. 2

MANDATORY LEVELS  
0430180002  
LC-37

GEODETIC COORDINATES  
32.41141 LAT DEG  
106.30852 LON DEG

TABLE 9

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUM. PERCENT	WIND DATA	
MILLIBARS	FEET	AIR DEGREES CENTIGRADE	DEWPOINT CENTIGRADE		DIRECTION DEGREES(TN)	SPEED KNOTS
850.0	4892.	8.4	-5.1	38.	214.2	4.6
800.0	6521.	3.6	-6.4	48.	229.9	5.1
750.0	8225.	-1.5	-7.8	62.	239.8	8.0
700.0	10011.	-6.3	-13.6	56.	249.3	10.8
650.0	11924.	-5.4	-26.0	18.	251.4	7.5
600.0	13970.	-9.1	-27.3	21.	232.2	6.3
550.0	16157.	-14.4	-31.6	22.	277.9	12.5
500.0	18501.	-20.1	-36.2	22.	265.4	19.5
450.0	21034.	-25.9	-41.0	22.	262.5	25.9
400.0	23796.	-32.4	-46.4	23.	266.4	27.7
350.0	26836.	-39.9	-55.8	10.**	260.7	29.0
300.0	30231.	-48.1			260.2	32.6
250.0	34094.	-55.1			243.6	32.8
200.0	38810.	-50.6			240.9	61.2
175.0	41673.	-49.4			240.8	71.5
150.0	44961.	-53.4			249.5	60.2
125.0	48746.	-60.5			255.3	51.5
100.0	53257.	-64.1				

\*\* AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 3989.00 FEET MSL  
12 FEB. 68 1600 HRS MST  
ASCENSION NO. 71

SIGNIFICANT LEVEL DATA  
0430020071  
WHITE SANDS

GEODETIC COORDINATES  
32.40043 LAT DEG  
106.37033 LON DEG

TABLE 10

PRESSURE GEOMETRIC ALTITUDE MILLIBARS MSL FEET	TEMPERATURE		REL. HUM. PERCENT
	AIR DEGREES	DEWPOINT CENTIGRADE	
877.0	12.8	2.9	51.0
850.0	9.9	-0.9	47.0
770.2	2.2	-5.6	56.0
700.0	-5.0	-7.9	80.0
688.0	-6.2	-8.0	87.0
677.2	-6.2	-15.4	48.0
659.2	-5.0	-19.0	30.0
641.4	-5.4	-20.2	30.0
573.2	-11.3	-24.7	32.0
500.0	-19.6	-31.4	34.0
455.2	-24.4	-36.0	33.0
400.0	-32.3	-40.6	42.0
377.6	-35.8	-43.6	43.0
345.0	-40.5	-43.6	70.0
315.2	-45.1	-49.7	59.0
300.0	-48.0		
269.1	-54.0		
258.1	-54.3		
250.0	-56.1		
242.2	-57.0		
216.4	-53.1		
200.0	-51.7		

STATION ALTITUDE 3989.00 FEET MSL  
 12 FEB. 80 1600 HMS MSL  
 ASCENSION NO. 71

UPPER AIR DATA  
 0430020071  
 WHITE SANDS

GEODETIC COORDINATES  
 32.40043 LAT DEG  
 106.37033 LONG DEG

TABLE 11

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CELSIUS	TEMPERATURE DEWPOINT CELSIUS	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	DIRECTION DEGREES (TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
3989.0	877.0	12.8	2.9	51.0	1065.0	659.9	.0	.0	1.000272
4000.0	876.6	12.8	2.9	50.9	1064.7	659.8	242.9	.0	1.000272
4500.0	860.8	11.1	.7	48.6	1052.1	657.7	242.9	1.5	1.000265
5000.0	845.2	9.5	-1.1	47.5	1039.2	655.7	242.9	2.9	1.000258
5500.0	829.6	8.0	-2.0	49.2	1025.5	654.0	242.9	4.3	1.000254
6000.0	814.4	6.6	-2.9	50.9	1011.9	652.3	242.9	5.8	1.000249
6500.0	799.4	5.1	-3.8	52.6	998.6	650.0	258.4	4.0	1.000245
7000.0	784.1	3.7	-4.7	54.3	985.5	648.8	299.7	2.7	1.000241
7500.0	770.2	2.2	-5.6	56.0	972.6	647.1	280.3	2.8	1.000237
8000.0	755.1	.8	-5.9	60.8	959.2	645.4	262.6	3.5	1.000234
8500.0	741.4	-.7	-6.3	65.6	946.0	643.7	258.7	7.8	1.000230
9000.0	727.4	-2.1	-6.8	70.4	933.1	642.0	255.4	10.8	1.000227
9500.0	713.6	-3.5	-7.3	75.2	920.4	640.3	240.3	10.8	1.000223
10000.0	700.1	-5.0	-7.9	80.0	907.9	638.5	242.7	11.0	1.000220
10500.0	686.1	-6.2	-8.7	82.3	894.6	637.1	244.2	11.3	1.000216
11000.0	673.5	-6.0	-16.1	44.3	877.2	637.1	244.6	11.5	1.000205
11500.0	660.5	-5.1	-19.4	31.4	857.8	638.1	244.4	11.6	1.000198
12000.0	647.9	-5.3	-20.1	30.0	841.9	637.9	240.2	11.3	1.000194
12500.0	635.4	-5.9	-20.6	30.2	827.6	637.1	240.6	10.8	1.000191
13000.0	623.0	-6.9	-21.3	30.5	814.7	635.9	250.1	10.4	1.000187
13500.0	610.9	-8.0	-22.1	30.9	802.0	634.6	254.0	10.3	1.000184
14000.0	599.1	-9.0	-22.9	31.2	789.6	633.4	260.3	10.9	1.000181
14500.0	587.5	-10.0	-23.7	31.6	777.3	632.1	263.3	12.4	1.000178
15000.0	576.1	-11.0	-24.5	31.9	765.2	630.9	264.9	14.2	1.000175
15500.0	564.6	-12.2	-25.4	32.2	753.5	629.5	265.0	14.9	1.000172
16000.0	553.4	-13.4	-26.4	32.5	741.9	628.0	265.7	15.7	1.000169
16500.0	542.4	-14.7	-27.4	32.8	730.6	626.5	267.7	16.6	1.000166
17000.0	531.5	-15.9	-28.4	33.1	719.5	625.0	267.8	17.7	1.000164
17500.0	520.9	-17.1	-29.4	33.4	708.5	623.5	260.1	19.1	1.000161
18000.0	510.6	-18.3	-30.4	33.7	697.7	622.0	264.0	20.6	1.000158
18500.0	500.4	-19.6	-31.4	34.0	687.1	620.5	263.3	22.3	1.000156
19000.0	490.2	-20.6	-32.4	33.6	676.0	619.2	262.8	24.4	1.000153
19500.0	480.1	-21.7	-33.4	33.6	664.9	617.9	262.4	26.5	1.000150
20000.0	470.3	-22.7	-34.4	33.3	654.1	616.6	263.1	27.1	1.000148
20500.0	460.7	-23.8	-35.4	33.1	643.4	615.3	263.6	27.5	1.000145
21000.0	451.2	-24.9	-36.3	33.6	633.1	613.8	263.2	27.1	1.000143
21500.0	441.7	-26.2	-37.0	35.1	623.1	612.2	262.3	27.1	1.000140
22000.0	432.5	-27.5	-37.8	36.6	613.2	610.6	261.1	27.4	1.000138
22500.0	423.4	-28.8	-38.6	38.0	603.6	609.0	262.2	27.4	1.000136
23000.0	414.5	-30.1	-39.4	39.5	594.1	607.4	263.2	27.4	1.000134

STATION ALTITUDE 3989.00 FEET MSL  
12 FEB. 80 1600 HRS MST  
ASCENSION NO. 71

UPPER AIR DATA  
0430020071  
WHITE SANDS

GEODETIC COORDINATES  
32.40043 LAT DEG  
106.37033 LONG DEG

TABLE 11 (CONT)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED SOUND KNOTS	DIRECTION DEGREES (TN)	SPEED KNOTS	INDEX OF REFRACTION
23500.0	405.8	-31.4	41.0	584.7	605.8	263.8	27.4	1.000131
24000.0	397.2	-32.7	42.1	575.5	604.1	264.3	27.2	1.000129
24500.0	388.7	-34.0	42.5	566.2	602.5	264.9	27.0	1.000127
25000.0	380.4	-35.4	42.9	557.2	600.8	264.5	27.7	1.000125
25500.0	372.1	-36.6	47.4	547.9	599.3	263.7	28.5	1.000123
26000.0	364.0	-37.7	54.0	538.5	597.8	261.9	29.6	1.000121
26500.0	356.0	-38.9	60.6	529.3	596.3	260.6	30.4	1.000119
27000.0	348.3	-40.0	67.2	520.3	594.9	259.9	31.0	1.000117
27500.0	340.6	-41.2	68.4	511.4	593.4	259.6	30.7	1.000115
28000.0	333.0	-42.3	65.7	502.5	591.9	259.6	29.9	1.000113
28500.0	325.6	-43.4	62.9	493.7	590.5	259.6	29.6	1.000111
29000.0	318.3	-44.6	60.2	485.2	589.0	259.0	29.4	1.000109
29500.0	311.2	-45.9	43.7**	476.9	587.4	261.3	29.2	1.000107
30000.0	304.2	-47.2	16.4**	468.9	585.6	263.1	28.9	1.000105
30500.0	297.2	-48.5		460.9	583.9	263.6	27.8	1.000103
31000.0	290.4	-49.8		452.9	582.2	268.0	27.1	1.000101
31500.0	283.7	-51.1		445.0	580.5	269.9	26.6	1.000099
32000.0	277.1	-52.4		437.3	578.8	270.5	25.8	1.000097
32500.0	270.7	-53.7		429.7	577.2	270.6	24.9	1.000096
33000.0	264.4	-54.1		420.6	576.6	265.0	25.8	1.000094
33500.0	258.2	-54.3		411.0	576.3	259.5	27.2	1.000092
34000.0	252.2	-55.6		403.8	574.6	256.4	32.0	1.000090
34500.0	246.2	-56.5		396.0	573.4	254.3	36.6	1.000088
35000.0	240.4	-56.7		387.0	573.1	254.9	39.4	1.000086
35500.0	234.8	-55.9		376.5	574.2	255.0	42.0	1.000084
36000.0	229.2	-55.1		366.2	575.3	253.1	43.9	1.000082
36500.0	223.9	-54.3		356.3	576.4	251.7	46.0	1.000079
37000.0	218.6	-53.5		346.6	577.4	252.3	49.3	1.000077
37500.0	213.3	-52.9		337.6	578.2			1.000075
38000.0	208.6	-52.4		329.2	578.8			1.000073
38500.0	203.7	-52.0		320.9	579.3			1.000071

\*\* AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 9989.00 FEET MSL  
12 FEB. 60 1600 HRS MST  
ASCENSION NO. 71

MANDATORY LEVELS  
0430020071  
WHITE SANDS

GEOGETIC COORDINATES  
32.40043 LAT DEG  
106.37033 LON DEG

TABLE 12

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUM.		WIND DATA	
MILLIBARS	FEET	AIR DEGREES	DEWPOINT CENTIGRADE	PERCENT	DIRECTION DEGREES (TN)	SPEED KNOTS	
850.0	4844.	9.9	-9	47.	242.9	2.5	
800.0	6483.	5.2	-3.7	53.	257.6	4.0	
750.0	8197.	.2	-6.1	63.	249.4	4.9	
700.0	9995.	-5.0	-7.9	80.	242.7	11.0	
650.0	11903.	-5.2	-20.0	30.	245.7	11.3	
600.0	13953.	-8.9	-22.8	31.	259.8	10.8	
550.0	16144.	-13.8	-26.7	33.	266.4	16.0	
500.0	18493.	-19.6	-31.4	34.	263.3	22.4	
450.0	21034.	-25.1	-36.4	34.	263.1	27.1	
400.0	23801.	-32.3	-40.8	42.	264.1	27.3	
350.0	26843.	-39.8	-43.7	66.	260.0	30.8	
300.0	30241.	-48.0			264.6	28.3	
250.0	34108.	-56.1			255.5	33.6	
200.0	38800.	-51.7					

\*\* AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.



STATION ALTITUDE 4047.27 FEET MSL  
12 FEB. 80  
ASCENSION NO. 4

SIGNIFICANT LEVEL DATA  
0430180004  
LC-37

GEODETIC COORDINATES  
32.41141 LAT DEG  
106.30852 LON DEG

TABLE 13

PRESSURE	GEOMETRIC ALTITUDE	TEMPERATURE	REL. HUM.
MILLIBARS	MSL FEET	AIR DEWPOINT DEGREES CENTIGRADE	PERCENT
875.1	4047.3	-3.5	32.0
850.0	4845.7	-2.2	42.0
746.8	8322.5	-5.8	61.0
700.0	10013.9	-6.6	87.0
678.6	10815.2	-22.1	26.0
659.8	11541.0	-22.6	22.0
624.0	12980.1	-24.1	23.0
500.0	18535.3	-33.0	28.0
473.0	19886.0	-36.2	26.0
424.6	22464.1	-40.3	31.0
400.0	23860.1	-38.8	52.0
392.4	24304.6	-39.6	52.0
374.0	25409.2	-39.0	73.0
344.4	27276.8	-43.0	72.0
333.0	28029.1	-46.7	61.0
316.6	29146.6	-49.6	60.0
300.0	30323.7		
260.2	33364.8		
250.0	34203.6		
227.4	36188.5		
218.6	37018.0		
205.6	38312.5		
200.0	38898.0		
162.0	43401.3		
150.0	45044.7		

STATION ALTITUDE 4047.27 FEET MSL  
12 FEB. 80  
ASCENSION NO. 4 1715 HRS MSL

UPPER AIR DATA  
0430180004  
LC-37

GEODETIC COORDINATES  
32.41141 LAT DEG  
106.30852 LON DEG

TABLE 14

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	TEMPERATURE DEWPOINT CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA		INDEX OF REFRACTION
							DIRECTION DEGREES(TN)	SPEED KNOTS	
4047.3	875.1	12.8	-3.5	32.0	1063.9	659.5	0.0	0.0	1.000259
4500.0	860.8	11.3	-2.6	37.7	1052.0	657.7	234.6	0.7	1.000258
5000.0	845.1	9.7	-2.3	42.8	1036.5	655.9	234.6	1.6	1.000256
5500.0	829.5	8.3	-2.7	45.6	1024.2	654.4	234.6	2.4	1.000252
6000.0	814.2	7.0	-3.1	48.3	1010.2	652.8	234.9	3.2	1.000248
6500.0	799.2	5.7	-3.6	51.0	996.4	651.2	241.9	4.9	1.000245
7000.0	784.5	4.3	-4.2	53.8	982.7	649.7	244.0	6.5	1.000241
7500.0	770.0	3.0	-4.8	56.5	969.3	648.1	240.5	7.7	1.000237
8000.0	755.8	1.7	-5.4	59.2	956.2	646.5	230.6	8.6	1.000234
8500.0	741.7	0.2	-5.9	63.7	943.4	644.7	229.9	9.0	1.000230
9000.0	727.7	-1.5	-6.0	71.4	931.4	642.7	220.6	9.5	1.000228
9500.0	713.9	-3.2	-6.3	79.1	919.5	640.7	228.0	10.1	1.000225
10000.0	700.4	-5.0	-6.8	86.8	907.9	638.6	234.4	10.8	1.000222
10500.0	686.9	-5.4	-14.2	50.0	892.8	637.8	245.5	12.1	1.000210
11000.0	673.8	-5.3	-22.2	25.0	875.8	637.8	251.7	12.2	1.000201
11500.0	660.8	-4.2	-22.6	22.2	855.5	639.1	250.2	11.2	1.000196
12000.0	648.2	-4.9	-23.1	22.3	841.2	638.3	251.7	10.1	1.000192
12500.0	635.7	-5.7	-23.6	22.7	827.6	637.3	248.4	9.6	1.000189
13000.0	623.5	-6.5	-24.2	23.0	814.3	636.3	251.6	10.5	1.000186
13500.0	611.2	-7.7	-24.9	23.5	801.7	634.9	254.0	11.3	1.000183
14000.0	599.1	-8.8	-25.7	23.9	789.3	633.5	257.9	11.5	1.000180
14500.0	587.3	-10.0	-26.5	24.4	777.1	632.1	260.2	11.9	1.000177
15000.0	575.7	-11.1	-27.3	24.8	765.1	630.8	260.5	12.5	1.000174
15500.0	564.3	-12.3	-28.1	25.3	753.3	629.4	261.7	13.6	1.000171
16000.0	553.2	-13.4	-28.9	25.7	741.7	628.0	264.0	15.7	1.000168
16500.0	542.3	-14.5	-29.7	26.2	730.2	626.8	265.5	17.8	1.000166
17000.0	531.6	-15.7	-30.5	26.6	719.0	625.2	260.1	19.9	1.000163
17500.0	521.1	-16.8	-31.3	27.1	708.0	623.8	260.4	21.9	1.000160
18000.0	510.8	-18.0	-32.1	27.5	697.1	622.4	264.2	23.5	1.000158
18500.0	500.7	-19.1	-33.0	28.0	686.4	621.0	262.4	25.1	1.000155
19000.0	490.5	-20.2	-34.1	28.3	675.3	619.7	260.2	26.0	1.000152
19500.0	480.6	-21.2	-35.3	26.6	664.3	618.4	258.3	26.6	1.000150
20000.0	470.7	-22.3	-36.4	26.2	653.6	617.1	250.7	25.7	1.000147
20500.0	461.0	-23.6	-37.2	27.2	643.3	615.5	255.8	25.2	1.000145
21000.0	451.4	-24.9	-37.9	28.2	633.3	613.9	250.6	25.7	1.000142
21500.0	442.1	-26.1	-38.8	29.1	623.4	612.3	257.2	26.1	1.000140
22000.0	432.9	-27.4	-39.6	30.1	613.6	610.8	257.5	26.2	1.000138
22500.0	423.9	-28.7	-40.3	31.5	604.1	609.2	257.0	25.3	1.000136
23000.0	415.0	-30.0	-39.4	39.1	594.5	607.5	257.2	23.6	1.000134
23500.0	406.2	-31.3	-39.0	46.6	585.1	605.9	257.0	23.6	1.000132

STATION ALTITUDE 4047.27 FEET MSL  
12 FEB. 80 1715 HRS MST  
ASCENSION NO. 4

UPPER AIR DATA  
0430180004  
LC-37

GEODETIC COORDINATES  
32.41141 LAT UEG  
106.30852 LONG UEG

TAB LE 14 (CONT)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS		WIND DATA		INDEX OF REFRACTION
		AIR DEGREES CENTIGRADE	DEWPOINT CENTIGRADE			DIRECTION DEGREES(TN)	SPEED KNOTS			
24000.0	397.6	-32.6	-39.1	52.0	575.6	604.3	256.8	24.4	1.000130	
24500.0	389.1	-33.7	-39.4	55.7	565.9	602.9	256.6	25.9	1.000127	
25000.0	380.7	-34.9	-39.1	65.2	556.6	601.4	256.4	27.6	1.000125	
25500.0	372.5	-36.1	-39.2	73.0	547.4	599.8	256.3	28.8	1.000123	
26000.0	364.4	-37.4	-40.4	72.7	538.2	598.3	256.1	29.6	1.000121	
26500.0	356.4	-38.6	-41.6	72.4	529.2	596.7	256.0	30.4	1.000119	
27000.0	348.6	-39.8	-42.9	72.1	520.4	595.1	257.5	31.1	1.000117	
27500.0	341.0	-41.0	-44.5	68.7	511.6	593.6	257.9	31.1	1.000115	
28000.0	333.4	-42.1	-46.6	61.4	502.8	592.2	258.3	31.2	1.000113	
28500.0	326.0	-43.4	-47.9	60.6	494.3	590.5	258.0	31.3	1.000111	
29000.0	318.7	-44.7	-49.2	60.1	486.0	588.8	258.1	31.2	1.000109	
29500.0	311.5	-45.9	-53.4	42.0**	477.6	587.2	259.2	30.3	1.000107	
30000.0	304.5	-47.1	-61.8	16.5**	469.3	585.7	260.3	29.3	1.000105	
30500.0	297.5	-48.3			461.0	584.1	261.7	27.9	1.000103	
31000.0	290.7	-49.5			452.8	582.6	263.2	27.1	1.000101	
31500.0	283.9	-50.8			444.8	581.0	264.5	27.0	1.000099	
32000.0	277.4	-52.0			436.9	579.4	266.2	26.8	1.000097	
32500.0	270.9	-53.2			429.1	577.8	268.4	26.5	1.000096	
33000.0	264.7	-54.4			421.5	576.2	267.8	27.5	1.000094	
33500.0	258.5	-55.4			413.7	574.8	264.3	30.0	1.000092	
34000.0	252.4	-55.9			404.8	574.2	260.4	34.2	1.000090	
34500.0	246.5	-56.1			395.6	574.0	256.7	40.2	1.000088	
35000.0	240.7	-56.0			386.1	574.1	255.3	44.1	1.000086	
35500.0	235.0	-56.0			376.9	574.1	253.4	45.6	1.000084	
36000.0	229.5	-55.9			368.0	574.2	253.6	46.3	1.000082	
36500.0	224.1	-55.4			359.5	574.6	253.7	46.2	1.000080	
37000.0	218.8	-54.7			349.9	575.6	255.6	47.9	1.000078	
37500.0	213.7	-54.4			340.3	576.1	255.8	50.7	1.000076	
38000.0	208.7	-54.2			332.0	576.5	254.4	53.7	1.000074	
38500.0	203.8	-53.6			323.4	577.2	253.9	56.8	1.000072	
39000.0	199.0	-52.8			314.8	578.2	253.7	59.4	1.000070	
39500.0	194.4	-52.6			307.1	578.6	253.6	61.9	1.000068	
40000.0	189.9	-52.3			299.7	578.9	254.4	63.3	1.000067	
40500.0	185.6	-52.1			292.4	579.2	255.4	64.4	1.000065	
41000.0	181.3	-51.8			285.3	579.6	255.4	65.7	1.000064	
41500.0	177.1	-51.6			278.4	579.9	255.3	67.0	1.000062	
42000.0	173.0	-51.3			271.6	580.2	254.0	67.4	1.000060	
42500.0	169.0	-51.1			265.1	580.6	252.3	67.6	1.000059	
43000.0	165.1	-50.8			258.6	580.9	249.9	67.4	1.000058	
43500.0	161.3	-50.8			252.6	581.0	247.0	67.2	1.000056	

\*\* AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 4047.27 FEET MSL  
 12 FEB. 80 1715 HRS MST  
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GEODETTIC COORDINATES  
 32.41141 LAT DEG  
 106.30852 LON DEG

TABLE 14 (CONT)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES (TN)	SPEED KNOTS	INDEX OF REFRACTION
44000.0	157.5	-51.6		247.7	579.8			1.000055
44500.0	153.9	-52.5		242.9	578.7			1.000054
45000.0	150.3	-53.3		238.2	577.6			1.000053

STATION ALTITUDE 4047.27 FEET MSL  
12 FEB. 80  
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MANDATORY LEVELS  
0430180004  
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GEODETIC COORDINATES  
32.41141 LAT DEG  
106.30852 LONG DEG

TABLE 15

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUMID. PERCENT	WIND DATA	
MILLIBARS	FEET	AIR DEGREES CENTIGRADE	DEWPOINT CENTIGRADE		DIRECTION DEGREES(TN)	SPEED KNOTS
850.0	4842.	10.1	-2.2	42.	234.0	1.3
800.0	6483.	5.7	-3.6	51.	241.8	4.9
750.0	8202.	1.1	-5.7	60.	233.8	8.8
700.0	10004.	-5.0	-6.8	87.	234.6	10.9
650.0	11916.	-4.7	-23.0	22.	252.6	10.2
600.0	13967.	-8.7	-25.7	24.	257.7	11.5
550.0	16158.	-13.7	-29.1	26.	264.6	16.4
500.0	18510.	-19.2	-33.0	28.	262.3	25.1
450.0	21053.	-25.0	-38.1	28.	256.7	25.8
400.0	23821.	-32.3	-38.8	52.	256.8	24.2
350.0	26866.	-39.6	-42.7	72.	257.3	31.0
300.0	30265.	-47.9			261.2	28.4
250.0	34131.	-56.1			258.9	36.4
200.0	38806.	-52.9			253.7	58.8
175.0	41642.	-51.4			254.9	67.4
150.0	44925.	-53.4				

\*\* AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.